

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

Claim 1. (currently amended): A MIS transistor, ~~formed on a semiconductor substrate,~~
comprising:

a semiconductor substrate comprising a projecting part of which ~~[[the]]~~ surfaces are at least two different crystal planes on a principal plane;

a gate insulator for covering at least a part of each of said at least two different crystal planes constituting the surface of the projecting part;

a gate electrode ~~comprised by the gate insulator so as to be electrically insulated from the semiconductor substrate, and comprised on each of said at least two different crystal planes constituting the surface of the projecting part~~ on said at least a part of each of said at least two different crystal planes constituting the surface of the projecting part so as to be electrically insulated therefrom by the gate insulator; and

~~a single conductivity type diffusion region formed in the projecting part facing a pair of diffusion regions having the same conductivity type and formed on both sides of the gate electrode in the projecting part so as to face said at least a part of each of said at least two different crystal planes constituting the surface of the projecting part and individually formed on both sides of the gate electrodes.~~

Claim 2. (currently amended): The MIS transistor according to claim 1 wherein

the channel width of a channel formed along with the gate insulator between the single conductivity pair of diffusion regions ~~individually formed on both sides of the gate electrodes~~ is

indicated by summation of ~~the channel widths~~ each width of each channel ~~generated~~ formed along each of said at least two different crystal planes.

Claim 3. (currently amended): The MIS transistor according to claim 1 ~~[[or]]~~ wherein the gate insulator covers said at least a part of each of said at least two different crystal planes, which configure the surface of the projecting part, so ~~[[that]]~~ as to continuously cover said at least two different crystal planes ~~are continuously covered~~.

Claim 4. (canceled).

Claim 5. (currently amended): The MIS transistor ~~formed on a semiconductor substrate~~, comprising:

a semiconductor substrate comprising a projecting part of which ~~[[the]]~~ surfaces ~~[[are]]~~ have at least two different crystal planes on a principal plane;

a gate insulator ~~[[for]]~~ covering ~~at least a part of~~ each of said ~~at least~~ two different crystal planes ~~constituting the principal plane and~~ of the surface of ~~[[the]]~~ said projecting part, said gate insulator further covering at least a part of said principal plane of said substrate;

a gate electrode ~~comprised by the~~ formed on said gate insulator so as to be electrically insulated from the semiconductor substrate, ~~and comprised on each of said at least two different crystal planes constituting the principal plane and the surface of the projecting part; and~~

a ~~single conductivity type~~ pair of diffusion region ~~regions of the same conductivity type~~ formed ~~in the projecting part facing each of said at~~ ~~[[least]]~~ said two different crystal planes ~~constituting the principal plane and surface of~~ ~~[[the]]~~ said projecting part and ~~individually~~ formed at said principal plane of said substrate on both sides of ~~[[the]]~~ said gate electrodes electrode.

Claim 6. (currently amended): The MIS transistor according to claim 5, wherein the gate insulator covers at least ~~a part of~~ each of said at least two different crystal planes; ~~which configure and the principal plane and the surface of the projecting part,~~ so that the principal plane and said ~~at least~~ two different crystal planes are continuously covered.

Claim 7-8. (canceled).

Claim 9. (previously presented): The MIS transistor according to claim 1, being a signal transistor.

Claim 10. (previously presented): The MIS transistor, according to claim 5, being a signal transistor.

Claim 11. (previously presented): The MIS transistor according to claim 1, wherein the semiconductor substrate is a silicon substrate, and the gate insulator is formed by exposing the surface of the silicon substrate to a plasma of a prescribed inert gas so as to remove hydrogen, and the hydrogen content at an interface of the silicon substrate and the gate insulator is $10^{11}/\text{cm}^2$ or less in units of surface density.

Claim 12. (previously presented). The MIS transistor according to claim 5, wherein the semiconductor substrate is a silicon substrate, and the gate insulator is formed by exposing the surface of the silicon substrate to a plasma of a prescribed inert gas so as to remove hydrogen, and the hydrogen content at an interface of the silicon substrate and the gate insulator is $10^{11}/\text{cm}^2$ or less in units of surface density.

Claim 13. (previously presented): The MIS transistor according to claim 11, wherein

the semiconductor substrate is a silicon substrate, and
the principal plane and said at least two different crystal planes are any two different crystal planes from the (100) plane, the (110) plane and the (111) plane.

Claim 14. (withdrawn): A CMOS transistor, comprising the MIS transistor according to claim 1, and also comprising an n-channel MOS transistor only formed on a principal plane of a semiconductor substrate and a p-channel MOS transistor, wherein

the p-channel MOS transistor comprises
that the gate insulator is an oxide film, and
that the single conductivity type diffusion region is a p-type diffusion region.

Claim 15. (withdrawn): A CMOS transistor, comprising the MIS transistor according to claim 5, and also comprising an n-channel MOS transistor only formed on a principal plane of a semiconductor substrate and a p-channel MOS transistor, wherein

the p-channel MOS transistor comprises
that the gate insulator is an oxide film, and
that the single conductivity type diffusion region is a p-type diffusion region.

Claim 16. (withdrawn): A CMOS transistor, comprising the MIS transistor according to claim 11, and also comprising an n-channel MOS transistor only formed on a principal plane of a semiconductor substrate and a p-channel MOS transistor, wherein

the p-channel MOS transistor comprises
that the gate insulator is an oxide film, and
that the single conductivity type diffusion region is a p-type diffusion region.

Claim 17. (withdrawn): A CMOS transistor comprising the MIS transistor according to claim 1, and also comprising an n-channel MOS transistor and a p-channel MOS transistor on a silicon substrate with the (100) plane as its principal plane, wherein

the n-channel MOS transistor comprises

a gate oxide film covering a part of the principal plane alone,

a gate electrode configured on the principal plane by the gate oxide film so as to be electrically insulated from the silicon substrate, and

an n-type diffusion region formed in the silicon substrate facing the principal plane and formed on both sides of the gate electrode, and

the p-channel MOS transistor comprises

that the single conductivity type diffusion region is a p-type diffusion region;

that the gate insulator is an gate oxide film, and

that one crystal plane is the (100) crystal plane and a second crystal plane is the (110) crystal plane among said at least two crystal planes.

Claim 18. (withdrawn): A CMOS transistor comprising the MIS transistor according to claim 5, and also comprising an n-channel MOS transistor and a p-channel MOS transistor on a silicon substrate with the (100) plane as its principal plane, wherein

the n-channel MOS transistor comprises

a gate oxide film covering a part of the principal plane alone,

a gate electrode configured on the principal plane by the gate oxide film so as to be electrically insulated from the silicon substrate, and

an n-type diffusion region formed in the silicon substrate facing the principal plane and formed on both sides of the gate electrode, and

the p-channel MOS transistor comprises

that the single conductivity type diffusion region is a p-type diffusion region;

that the gate insulator is an gate oxide film, and

that one crystal plane is the (100) crystal plane and a second crystal plane is the (110) crystal plane among said at least two crystal planes.

Claim 19. (withdrawn): The CMOS transistor according to claim 16, wherein the current driving capacity in the p-channel MOS transistor and the n-channel MOS transistor are equal to each other and the element area of the p-channel MOS transistor and the n-channel MOS transistor are the same.